

1 WHAT IS CLAIMED IS:

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3 1. A pharmaceutical composition comprising an effective amount of (R,R'),(R,S')-  
4 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof,  
5 substantially free of (S,R'),(S,S')-amphetaminil, and at least one  
6 pharmaceutically-acceptable carrier, diluent, excipient or additive.

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8 2. A controlled release formulation comprising the pharmaceutical composition of  
9 claim 1.

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11 3. An immediate release formulation comprising the pharmaceutical composition of  
12 claim 1.

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14 4. An oral dosage form comprising the pharmaceutical composition of claim 1  
15 consisting of about 0.1 to about 100 mg of (R,R'),(R,S')-amphetaminil sulfate or  
16 another pharmaceutically-acceptable salt thereof.

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18 5. The dosage form of claim 4 consisting of about 1 to about 50 mg of (R,R'),(R,S')-  
19 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof.

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21 6. The pharmaceutical composition of claim 1 wherein said (R,R'),(R,S')-  
22 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is  
23 greater than about 90% of the weight of total amphetaminil.

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2 7. The pharmaceutical composition of claim 6 wherein said (R,R'),(R,S')-  
3 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is  
4 greater than about 95% of the weight of total amphetaminil.

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6 8. The pharmaceutical composition of claim 7 wherein said (R,R'),(R,S')-  
7 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is  
8 greater than about 99% of the weight of total amphetaminil.

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10 9. A method for prophylaxis or treatment of a human condition or disease requiring  
11 or benefitting from a central nervous stimulant comprising administering to said  
12 human an effective amount of a pharmaceutical composition comprising  
13 (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt  
14 thereof, substantially free of (S,R'),(S,S')-amphetaminil.

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16 10. The method of claim 9 wherein said administering is parenteral, transmucosal or  
17 transdermal.

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19 11. The method of claim 10 wherein said transmucosal is orally, nasally, or rectally.

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21 12. The method of claim 10 wherein said parenteral is intra-arterial, intravenous,  
22 intramuscular, intradermal, subcutaneous, intraperitoneal, intraventricular, or  
23 intracranial.

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- 1 13. The method of claim 9 wherein the amount administered is about 0.1 to about 100  
2 mg daily.  
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- 4 14. The method of claim 13 wherein said amount administered is about 1 to about 50  
5 mg daily.  
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- 7 15. The method of claim 14 wherein the amount is administered from one to about  
8 four unit doses per day.  
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- 10 16. The method of claim 15 wherein the amount administered is one or two unit doses  
11 per day.  
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- 13 17. The method of claim 5 wherein the amount of (R,R'),(R,S')-amphetamine sulfate  
14 or another pharmaceutically-acceptable salt thereof is greater than about 90% of  
15 the weight of the total amphetamine.  
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- 17 18. The method of claim 17 wherein the amount of (R,R'),(R,S')-amphetamine  
18 sulfate or another pharmaceutically-acceptable salt thereof is greater than about  
19 95% of the weight of the total amphetamine.  
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- 21 19. The method of claim 18 wherein the amount of (R,R'),(R,S')-amphetamine  
22 sulfate or another pharmaceutically-acceptable salt thereof is greater than about  
23 99% of the weight of the total amphetamine.

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2 20. The method of claim 9 wherein said amount of (R,R'),(R,S')-amphetaminil  
3 sulfate or another pharmaceutically-acceptable salt thereof, substantially free of  
4 (S,R'),(S,S')-amphetaminil is administered together with a pharmaceutically-  
5 acceptable carrier, diluent, excipient or additive.

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7 21. The method of claim 9 wherein said condition or disease is narcolepsy, attention  
8 deficit hyperactivity disorder (ADHD), depression, Parkinson's disease, cognitive  
9 dysfunction, or Alzheimer's disease, renal dysfunction, asthma, obesity, nicotine  
10 withdrawal, hypotension, apathy, potentiating activity of a conventional  
11 antidepressant, potentiating an opiate for pain control, or reduced energy  
12 associated with chemotherapy or radiation therapy.

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14 22. The method of claim 9 wherein said condition or disease is amenable to treatment  
15 by preferential activation of mesolimbic-mediated behavior.

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